


A man with glasses is shown in profile, looking at a computer monitor. He is wearing a light blue shirt and a dark tie. The monitor displays a network management interface with various colored bars and text. In the background, there are other monitors and a rack of network equipment with blue and red lights.

Alcatel-Lucent 1300 Convergent Network Management Center

OPEX REDUCTION THROUGH INTEGRATED NETWORK MANAGEMENT





The Alcatel-Lucent 1300 Convergent Network Management Center (CMC) provides cost-effective integrated network management for next generation networks (NGNs), fixed IP multimedia subsystem (IMS) networks, public switched telephone networks (PSTNs), signaling networks - and any combination of these. It provides an easy upgrade from PSTN to NGN/IMS. At the same time, the Alcatel-Lucent 1300 CMC significantly reduces operating expenditures (OPEX), especially when compared with the cost of using separate management systems for the PSTN and NGN. This product can also exploit the NGN's capability of delivering new revenue-generating services. It's a complete value proposition because it also enables the evolution to fixed-mobile convergence (FMC) that is possible with IMS. Converged IMS-based networks are managed by the Alcatel-Lucent 1300 Cross Domain Management Center (XMC), an evolution of the Alcatel-Lucent 1300 CMC, and the Alcatel-Lucent 1300 Operations and Maintenance Center (OMC), which manages mobile networks.




Integrated Network Management Today and Tomorrow

As PSTNs evolve, service providers are faced with the challenge of managing NGNs, IMS networks and signaling networks. Network management solutions must be flexible and cost-effective. They must enable new revenue-generating services, allow for future growth, improve operational efficiency and reduce costs. It's a tall order.

The Alcatel-Lucent 1300 CMC meets the challenge by providing integrated management of:

- > The Alcatel-Lucent 5020 Softswitch, including the Alcatel-Lucent 5020 Media Gateway Controller (MGC) and the Alcatel-Lucent 5020 Call Session Controller (CSC), and addressing border gateway and access gateway control functions
- > Related application servers:
 - Alcatel-Lucent 8690 Open Services Platform (OSP)
 - Alcatel-Lucent 5350 IMS Application Server (IAS)
 - third-party products from companies such as Sylantro, ACME and Conveda
- > Trunking and access gateways:
 - Alcatel-Lucent 7510/7515 Media Gateway (MG)
 - Alcatel-Lucent 1540 Litespan Multiservice Access Gateway (1540 Litespan)
 - Alcatel-Lucent 7302 Intelligent Services Access Manager (ISAM)
- > Alcatel-Lucent 1430 IP Multimedia-Home Subscriber Server (IM-HSS)
- > Alcatel-Lucent 5070 Signaling Server Global (SSG)
- > Alcatel-Lucent 1000 S12 switches
- > Alcatel-Lucent 5020 Call Management Server (CMS)
- > Alcatel-Lucent 5750 Subscriber Service Controller (SSC)
- > Alcatel-Lucent 5430 Session Resource Broker (SRB)
- > Alcatel-Lucent 7720 Intelligent Gateway GPRS Support Node (iGGSN)
- > Alcatel-Lucent 8688 Media Resource Function (MRF)
- > Alcatel-Lucent 8693 Personalized Ring Back Tone (PRBT)



The Alcatel-Lucent 1300
CMC provides integrated
network management
from one terminal.

Figure 1 shows the overall scope of the Alcatel-Lucent 1300 CMC network management capabilities.

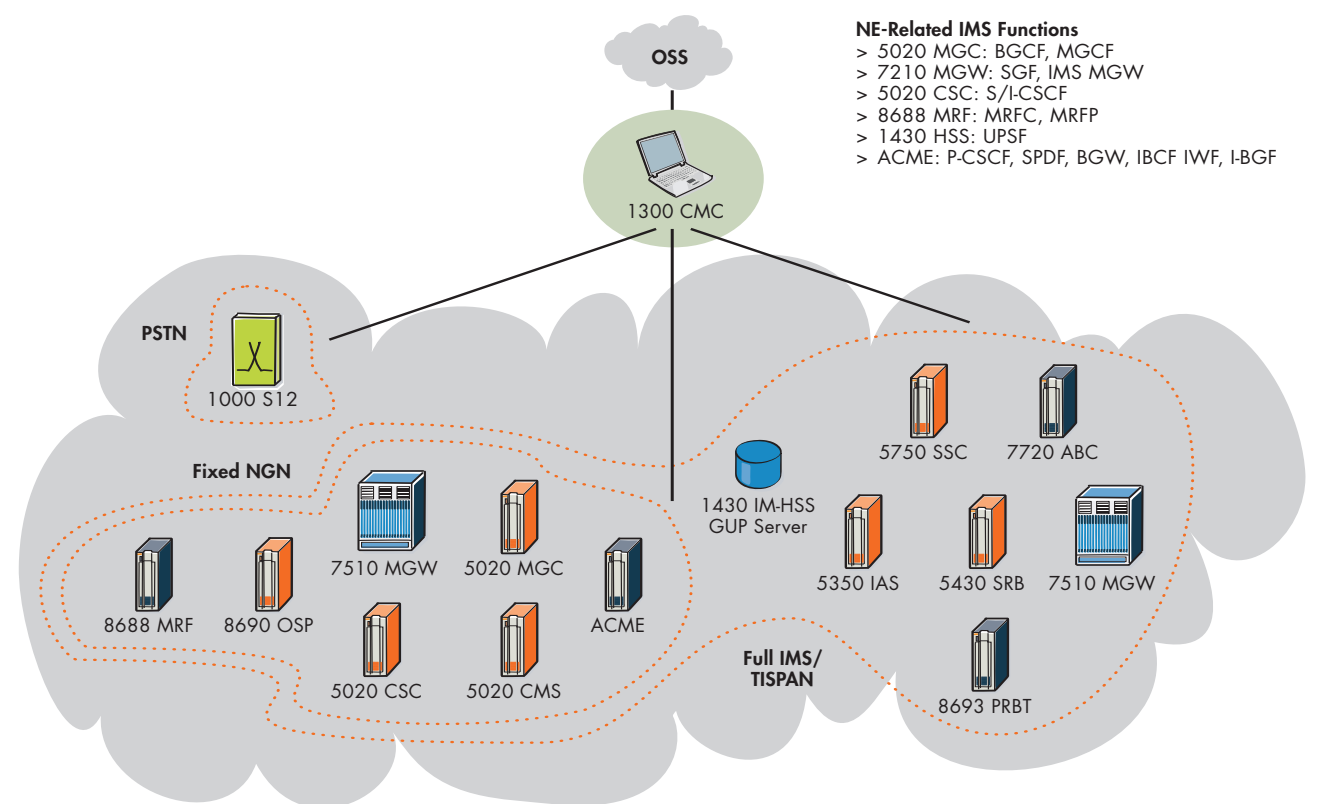
Open operations support system (OSS) interfaces based on the enhanced Telecom Operating Map (eTOM) model provide maximum flexibility in a multivendor environment. In addition, the Alcatel-Lucent 1300 CMC can be tailored to each customer's needs for access rights, profiles and alarm and event routing.

Whether a service provider has an established Alcatel-Lucent 1000 S12 network, a new NGN focused on the introduction of multimedia services, or is planning a

migration to an IMS network architecture, the Alcatel-Lucent 1300 CMC provides efficient and flexible network management that facilitates network migration.

Service providers benefit from significantly lower capital expenditures (CAPEX) and OPEX as well as from the capability of delivering new, revenue-generating NGN/IMS services. The Alcatel-Lucent 1300 CMC also ensures the smooth migration of current provisioning processes from PSTNs to NGNs and improves operational efficiency. A key feature is consistent provisioning across different network element types, allowing automation via OSS interfaces.

Figure 1 - Overview of Alcatel-Lucent 1300 CMC Network Management



Legend

1430 IM-HSS: IP Multimedia-Home Subscriber Server
 5020 CSC: Call Session Controller
 5020 MGC: Multimedia Gateway Controller
 5350 IAS: IMS Application Server
 5430 SRB: Session Resource Broker
 5750 SSC: Subscriber Service Controller
 7570 MG: Media Gateway
 7720 ABC: Access Border Controller

8688 MRF: Media Resource Function
 8690 OSP: Open Service Platform
 8693 PRBT: Personalized Ring Back Tone
 ACME: Alcatel-Lucent Session Border Controller
 BGW: Border Gateway
 GUP: Generic User Profile
 I-BGF: Interconnect Border Gateway Function

IBCF IWF: Interconnection Border Control Function Interworking Function
 OSS: Operation Support System
 P-CSCF: Proxy Call Session Control Function
 S/I-CSCF: Serving/Interrogating Call Session Control Function
 SPDF: Sealed PDF
 UPSF: User Profile Server Function

The Alcatel-Lucent 1300 CMC Value Proposition

In today's highly competitive and fast-moving telecom landscape, each step in migration to IMS must generate value immediately. The Alcatel-Lucent 1300 CMC provides immediate benefits in CAPEX and OPEX savings.

CAPEX SAVINGS

The Alcatel-Lucent 1300 CMC offers a competitive price through its integration of several element managers and, for operators with established Alcatel-Lucent 1000 S12 networks, enables extension to NGN/IMS management with a simple software upgrade. Also, a single interface minimizes the OSS integration costs.

OPEX SAVINGS

Integrated network management for the PSTN and NGN/IMS significantly reduces OPEX, by about 40 percent compared with the costs of separately managing the PSTN and NGN/IMS.

For new NGNs, integrated management is the key to high network availability and rapid service provisioning. The intuitive user interface minimizes training costs for operators, reduces input errors and increases operational efficiency.

SMOOTH NETWORK MIGRATION

A common management platform enables network operators to add the NGN/IMS management capabilities of the Alcatel-Lucent 1300 CMC to their networks, ensuring a smooth PSTN-to-NGN/IMS migration for established Alcatel-Lucent 1000 networks and reducing service turn-up time.

This includes tools and processes for subscriber migration. For the introduction of IMS, subscriber migration to a central network database, such as the Alcatel-Lucent 1430 IP Multimedia-Home Subscriber Server (IP-HSS), is key in minimizing the migration costs and the impact on subscribers.

NEW REVENUE STREAMS

By adding NGN/IMS capabilities to established networks, the Alcatel-Lucent 1300 CMC enables new revenue-generating services, thereby accelerating return on investment (ROI) and providing a future-proof network management solution.

PROVEN NETWORK MANAGEMENT

The Alcatel-Lucent 1300 CMC and its predecessors, the Alcatel-Lucent 1360 Switch Management Center (SMC) for S12 switches and the Alcatel-Lucent 1300 Network Management Center (NMC) (1+2) for E10 switches, manage about 150 million terminations worldwide, from France to China and Australia to Portugal. Integrated alarm surveillance, hardened in numerous networks, guarantees maximum network uptime.

A COMPLETE VALUE PROPOSITION

By generating value today and well into the future, the Alcatel-Lucent 1300 CMC provides a complete value proposition.

"Alcatel offers a very complete overall management umbrella for the 5020 Softswitch, as well as the other elements within its NGN Voice portfolio. The 5020 Element Management platform offers full FCAPS (Fault, Configuration, Accounting, Performance, and Security) support as well as seamless integration into Alcatel's 1300 Convergent Network Management Center (CMC), providing full operations and maintenance support for Alcatel's softswitch, gateways, and legacy PSTN switches, as well as interfacing to existing operational support systems (OSSs)."

J. MCGARVEY, CURRENT ANALYSIS, INC., SEPTEMBER 1, 2005

KEY FEATURES

The Alcatel-Lucent 1300 CMC provides integrated network management from one terminal, as shown in Figure 2. Key features include:

- > Network-wide access, for NGN/IMS management from one terminal
- > Complete element management of the Alcatel-Lucent 5020 Softswitch, Alcatel-Lucent 7510/7515 MG, application servers, network databases, multiservice access nodes and, where applicable, the Alcatel-Lucent 5070 SSG
- > Integrated network management for all network elements
- > Software management for the Alcatel-Lucent media gateways
- > Provisioning functions across network elements
- > Subscriber-migration support
- > Trunk management for softswitches and gateways
- > Measurement-data forwarding
- > Interface for service provisioning and inventory data
- > Service-order interface for subscriber provisioning (XML based)
- > Central backup for all network elements (NEs)

- > Secured interfaces such as SNMPv3 and Secure Shell (SSH)
- > Central authentication via Lightweight Directory Access Protocol (LDAP)

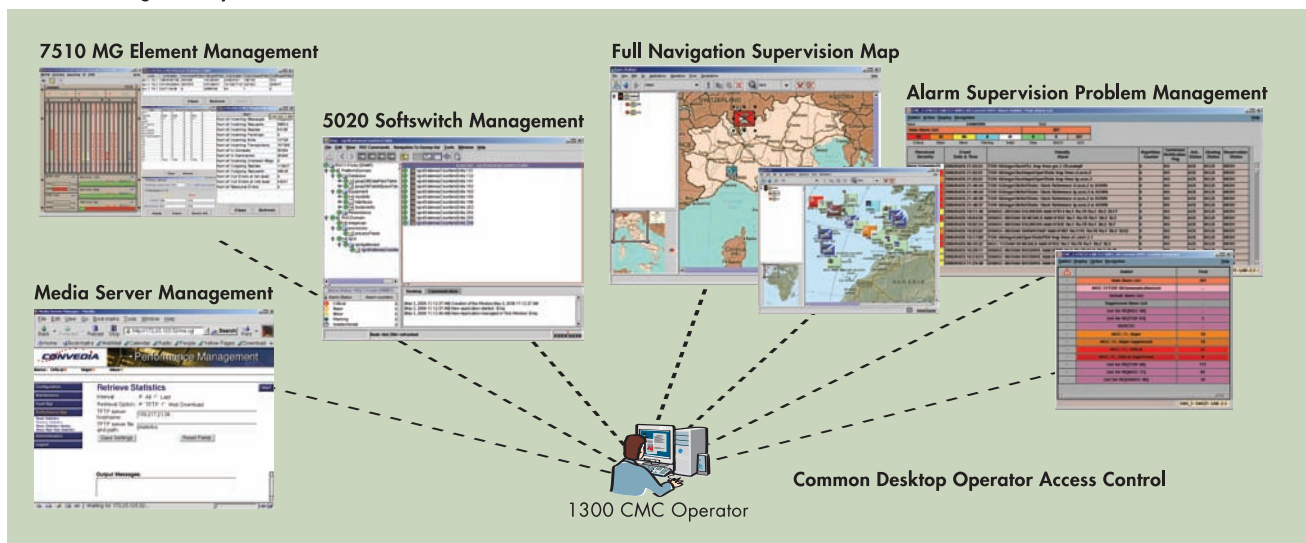
ALCATEL-LUCENT 5020 SOFTSWITCH APPLICATIONS

- > Alarm management
- > Fault restoration
- > Trunk management
- > Routing management
- > Subscriber management
- > IP connection management
- > No. 7 message transfer part (MTP) management
- > Signaling connection control part (SCCP) management
- > Provisioning of trunking gateway terminations
- > Verification of trunking gateway configurations

The Alcatel-Lucent 1300 CMC helps service providers to maximize the value of their current investments as well as to enable future revenue streams.

Figure 2 - Alcatel-Lucent 1300 CMC Operator Desktop

Network Management System – 1300 CMC



Intelligent Interfaces for Cost-Effective Management

INTUITIVE GUI

The Alcatel-Lucent 1300 CMC provides an intuitive GUI for simple network management. An animated network map displays the equipment and enables the operator to navigate easily through all configuration and maintenance functions. For ease of monitoring and management, alarms from all relevant equipment are conveniently displayed in one alarm list; centralized alarm management helps to increase network availability.

Task-oriented forms step the operator through procedures and minimize input errors by leading the operator from field to field and restricting input to only the accepted values for a given situation (see Figure 3). More complex operations, such as clearing certain alarms and provisioning routing data, are further supported by task procedures, which combine several task-oriented forms.

SUBSCRIBER AND ROUTING PROVISIONING

The Alcatel-Lucent 1300 CMC also provides co-operative management and service management applications for subscriber provisioning and routing provisioning.

The Alcatel-Lucent 1000 Extended Assistant Routing System (EARS) is a Unix-based database application integrated into the Alcatel-Lucent 5020 MGC for flexible and enhanced handling of routing data. This application improves routing data capacity and routing processing performance. It also supports network-wide routing by providing centralized routing for multiple network elements.

The Alcatel-Lucent 1000 EARS service provisioning system (SPS) manages routing of related data in persistent databases via a GUI and XML northbound interface.

In order to optimize the division of revenue, the Alcatel-Lucent 1000 EARS enables rapid adaptation of routing data to changing costs for inter-operator calls.

OSS INTERFACES

The Alcatel-Lucent 1300 CMC provides standardized interfaces for service provisioning and inventory data, service assurance, and routing. It also supports performance data collection and forwarding to the OSS for the following NEs: Alcatel-Lucent 5020 CSC, Alcatel-Lucent 5020 MGC, Alcatel-Lucent 7510 MG, Alcatel-Lucent 8690 OSP, Acme, and Convedia.

The Alcatel-Lucent 1300 CMC provides inventory data for several nodes (e.g. location, site) and network types. It supports initial download and synchronization functions. Software management features are supported centrally. The Alcatel-Lucent 1300 CMC provides open OSS interfaces based on the de-facto standard XML. Alcatel-Lucent's service provisioning is an open web service, based on Axiom (OEM product) which uses the Alcatel-Lucent 1300 CMC service provisioning interface. Alcatel-Lucent's inventory management application is based on Cramer (OEM product) which uses the Alcatel-Lucent 1300 CMC inventory interface.

A Complete Value Proposition

The Alcatel-Lucent 1300 CMC supports the management of fixed networks and enables service providers to migrate their subscribers from PSTN to NGN/IMS networks. It ensures minimum service downtime for customers and requires no modification of existing dialing plan and subscriber domain names; subscriber profiles and services can be kept. The process is efficient, safe and secure, and results in a short migration phase. It also evolves the management of converged IMS based networks (with XMC).

The Alcatel-Lucent 1300 CMC's task-oriented forms and task procedures, its subscriber and route provisioning capabilities and the subscriber migration support enable efficient management, reduced input errors and reduced training requirements. It all adds up to lower OPEX. The Alcatel-Lucent 1300 CMC (with its evolution to the Alcatel-Lucent 1300 XMC), also offers a secure path to facilitate network migration to IMS-based converged networks and helps to optimize revenues by quickly adjusting routing and subscriber data.



About Alcatel-Lucent

Alcatel-Lucent provides communications solutions to telecommunication carriers, Internet service providers and enterprises for delivery of voice, data and video applications to their customers and/or employees. With its leading position in fixed and mobile broadband networks, applications and services, Alcatel-Lucent helps its partners and customers build a user-centric broadband world.



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